K 7

```
RRRRRRRRRRRR     UUU         UUU  NNN         NNN     000000000     FFFFFFFFFFFFFFF  FFFFFFFFFFFFFFF
RRRRRRRRRRRR     UUU         UUU  NNN         NNN     000000000     FFFFFFFFFFFFFFF  FFFFFFFFFFFFFFF
RRRRRRRRRRRR     UUU         UUU  NNN         NNN     000000000     FFFFFFFFFFFFFFF  FFFFFFFFFFFFFFF
RRR         RRR  UUU         UUU  NNN         NNN  000         000  FFF              FFF
RRR         RRR  UUU         UUU  NNN         NNN  000         000  FFF              FFF
RRR         RRR  UUU         UUU  NNN         NNN  000         000  FFF              FFF
RRR         RRR  UUU         UUU  NNNNNN      NNN  000         000  FFF              FFF
RRR         RRR  UUU         UUU  NNNNNN      NNN  000         000  FFF              FFF
RRR         RRR  UUU         UUU  NNNNNN      NNN  000         000  FFF              FFF
RRRRRRRRRRRR     UUU         UUU  NNN   NNN   NNN  000         000  FFFFFFFFFFFF     FFFFFFFFFFFF
RRRRRRRRRRRR     UUU         UUU  NNN   NNN   NNN  000         000  FFFFFFFFFFFF     FFFFFFFFFFFF
RRRRRRRRRRRR     UUU         UUU  NNN   NNN   NNN  000         000  FFFFFFFFFFFF     FFFFFFFFFFFF
RRR   RRR        UUU         UUU  NNN      NNNNNN  000         000  FFF              FFF
RRR   RRR        UUU         UUU  NNN      NNNNNN  000         000  FFF              FFF
RRR   RRR        UUU         UUU  NNN      NNNNNN  000         000  FFF              FFF
RRR      RRR     UUU         UUU  NNN         NNN  000         000  FFF              FFF
RRR      RRR     UUU         UUU  NNN         NNN  000         000  FFF              FFF
RRR      RRR     UUU         UUU  NNN         NNN  000         000  FFF              FFF
RRR         RRR  UUUUUUUUUUUUUUU  NNN         NNN     000000000     FFF              FFF
RRR         RRR  UUUUUUUUUUUUUUU  NNN         NNN     000000000     FFF              FFF
RRR         RRR  UUUUUUUUUUUUUUU  NNN         NNN     000000000     FFF              FFF
```

```
_$2

Sym
---
NDX
NDX
NUM
NUM
OPE
OUT
PAC
PAC
PAC
PAC
PAC
PAC
PAC
PAD
PAG
PAG
PAG
PAG
PAG
PAG
PAG
PER
PUT
RCO
RIN

RLI
RNO
RNO
RTY
SAV
STR
STR
STR
STR
STR
STR

STR
STR
STR
STR
STK
STR
STR
STR
STR
STR
STR
STR
STR
STR
STR
```

```
**FILE**ID**SCANT                                        G  2




  SSSSSSSS    CCCCCCCC    AAAAAA    NN      NN  TTTTTTTTTT
  SSSSSSSS    CCCCCCCC    AAAAAA    NN      NN  TTTTTTTTTT
SS          CC          AA      AA  NN      NN      TT
SS          CC          AA      AA  NN      NN      TT
SS          CC          AA      AA  NNNN    NN      TT
SS          CC          AA      AA  NNNN    NN      TT
  SSSSSS    CC          AA      AA  NN  NN  NN      TT
  SSSSSS    CC          AA      AA  NN  NN  NN      TT
        SS  CC          AAAAAAAAAA  NN    NNNN      TT
        SS  CC          AAAAAAAAAA  NN    NNNN      TT
        SS  CC          AA      AA  NN      NN      TT           ....
        SS  CC          AA      AA  NN      NN      TT           ....
SSSSSSSS      CCCCCCCC  AA      AA  NN      NN      TT           ....
SSSSSSSS      CCCCCCCC  AA      AA  NN      NN      TT           ....

LL            IIIIII      SSSSSSSS
LL            IIIIII      SSSSSSSS
LL              II      SS
LL              II      SS
LL              II      SS
LL              II      SS
LL              II        SSSSSS
LL              II        SSSSSS
LL              II              SS
LL              II              SS
LL              II              SS
LL              II              SS
LLLLLLLLLL    IIIIII    SSSSSSSS
LLLLLLLLLL    IIIIII    SSSSSSSS
```

---

SCAN
V04-

```
  0001 0 %TITLE 'Scan and translate text into the MRA'
  0002 0 MODULE SCANT (
  0003 0                 IDENT = 'V04-000'
P 0004 0 %BLISS32[,
P 0005 0         ADDRESSING_MODE(EXTERNAL=LONG_RELATIVE,NONEXTERNAL=LONG_RELATIVE)
  0006 0         ]
  0007 0                 ) =
  0008 1 BEGIN
  0009 1 !
  0010 1 !****************************************************************************
  0011 1 !*                                                                          *
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  0029 1 !*                                                                          *
  0030 1 !*                                                                          *
  0031 1 !****************************************************************************
  0032 1 !
  0033 1 !++
  0034 1 ! FACILITY:      DSR (Digital Standard RUNOFF) / DSRPLUS
  0035 1 !
  0036 1 ! ABSTRACT: Text scanner and translator, creating the MRA.
  0037 1 !
  0038 1 !
  0039 1 ! ENVIRONMENT: Transportable
  0040 1 !
  0041 1 ! AUTHOR: R.W.Friday
  0042 1 !
  0043 1 ! CREATION DATE: April, 1978
  0044 1 !
```

```
;     46      0045   1 %SBTTL 'Revision History'
;     47      0046   1 !
;     48      0047   1 ! MODIFIED BY:
;     49      0048   1 !
;     50      0049   1 !       009     REM00009        Ray Marshall    17-November-1983
;     51      0050   1 !               Modified the external definition of ATABLE to use the new
;     52      0051   1 !                 macro ATABLE_DEFINITION defined in ATCODE.REQ.
;     53      0052   1 !
;     54      0053   1 !       008     REM00008        Ray Marshall    7-November-1983
;     55      0054   1 !               Added support for case changing within the DEC multinational
;     56      0055   1 !                 character set.
;     57      0056   1 !
;     58      0057   1 !       007     KFA00007        Ken Alden       15-Mar-1983
;     59      0058   1 !               For DSRPLUS: Added recognition of an escape sequence
;     60      0059   1 !
;     61      0060   1 !       006     KAD00006        Keith Dawson    07-Mar-1983
;     62      0061   1 !               Global edit of all modules. Updated module names, idents,
;     63      0062   1 !               copyright dates. Changed require files to BLISS library.
;     64      0063   1 !
;     65      0064   1 !--
;     67          0065   1 %SBTTL 'Module Level Declarations'
;     68          0066   1
;     69          0067   1 !
;     70          0068   1 ! TABLE OF CONTENTS:
;     71          0069   1 !
;     72          0070   1
;     73          0071   1 FORWARD ROUTINE
;     74          0072   1     OUTXSP : NOVALUE;
;     75          0073   1
;     76          0074   1 !
;     77          0075   1 ! INCLUDE FILES:
;     78          0076   1 !
;     79          0077   1
;     80          0078   1 LIBRARY 'NXPORT:XPORT';                          ! XPORT Library
;     81          0079   1 REQUIRE 'REQ:RNODEF';                          ! RUNOFF variant definitions
;     82          0210   1
;     83        U 0211   1 %IF DSRPLUS %THEN
;     84        U 0212   1 LIBRARY 'REQ:DPLLIB';                          ! DSRPLUS BLISS Library
;     85          0213   1 %ELSE
;     86          0214   1 LIBRARY 'REQ:DSRLIB';                          ! DSR BLISS Library
;     87          0215   1 %FI
;     88          0216   1
;     89          0217   1 !
;     90          0218   1 ! MACROS:
;     91          0219   1 !
;     92          0220   1 !
;     93          0221   1 ! EQUATED SYMBOLS:
;     94          0222   1 !
;     95          0223   1
;     96          0224   1 EXTERNAL LITERAL
;     97          0225   1     RINTES : UNSIGNED (8);
;     98          0226   1
;     99          0227   1 !
;    100          0228   1 ! OWN STORAGE:
;    101          0229   1 !
;    102          0230   1 !
;    103          0231   1 ! EXTERNAL REFERENCES:
;    104          0232   1 !
;    105          0233   1
;    106          0234   1 EXTERNAL
;    107          0235   1     FLGT : FLAG_TABLE,
;    108          0236   1     IRA : FIXED_STRING,
;    109          0237   1     MRA : REF FIXED_STRING,
;    110          0238   1     SCA : SCA_DEFINITION,
;    111          0239   1     TSF : TSF_DEFINITION;
;    112          0240   1
;    113          0241   1 EXTERNAL LITERAL                                         !Error messages
;    114          0242   1     RNFFNA,
;    115          0243   1     RNFIBO,
;    116          0244   1     RNFIIF,
;    117          0245   1     RNFLOC,
;    118          0246   1     RNFSSR;
;    119          0247   1
;    120          0248   1 EXTERNAL
;    121          0249   1     atable : atable_definition, ! Action table.  Used to identify what type of
;    122          0250   1                                 ! action is to be taken on encountering any
;    123          0251   1                                 ! given character.
;   124           0252  1        KHAR;
;   125           0253  1
;   126           0254  1   EXTERNAL ROUTINE
;   127           0255  1        DOFLG,
;   128           0256  1        ENDCHR,
;   129           0257  1        ENDWRD,
;   130           0258  1        ERM,
;   131           0259  1        ERMS,
;   132           0260  1        FCIMRA,
;   133           0261  1        PUTMSG,
;   134           0262  1        RSKIPS,
;   135           0263  1        XTAB;
;   136           0264  1
```

```
1 GLOBAL ROUTINE SCANT : NOVALUE =
1
1 !++
1 ! FUNCTIONAL DESCRIPTION:
1 !
1 !
1 ! FORMAL PARAMETERS:    None
1 !
1 ! IMPLICIT INPUTS:      None
1 !
1 ! IMPLICIT OUTPUTS:     None
1 !
1 ! ROUTINE VALUE:
1 ! COMPLETION CODES:     None
1 !
1 ! SIDE EFFECTS: None
1 !
1 !--
1
2     BEGIN
2
2     WHILE .FS_LENGTH (IRA) GEQ 0 DO
3         BEGIN
3
3         LABEL
3             PRESCAN;
3
3 PRESCAN :
4         BEGIN                                   !Start PRESCAN operation
4
4         IF .SCA_PRESCAN
4         THEN
4         !If SCA_PRESCAN is TRUE, text scanning is stopped by a ';'.
5             BEGIN
5             !Make sure that a <QUOTE flag> is not forcing the character.
5
5             IF .SCA_FLAGS                       !
5                 AND .FLGT [QUO_FLAG, FLAG_ENABLED]
5             THEN
5
5                 IF .KHAR EQL .FLGT [QUO_FLAG, FLAG_CHARACTER]
5                 THEN
5                 !<QUOTE flag> forcing something
5                 !Normal processing will take care of it
5                     LEAVE PRESCAN;
5
5             !See if <OVERSTRIKE flag> forces next character
5
5             IF .SCA_FLAGS                       !
5                 AND .FLGT [OVR_FLAG, FLAG_ENABLED]
5             THEN
5
5                 IF .KHAR EQL .FLGT [OVR_FLAG, FLAG_CHARACTER]
5                 THEN
5                 !<OVERSTRIKE flag> forcing next character.
5                 !Normal processing will take care of two characters.
5                     LEAVE PRESCAN;
```

```
;  195          0322 5
;  196          0323 5                IF .KHAR EQL %C';'
;  197          0324 5                THEN
;  198          0325 5                !Found a ';' terminating the scan.
;  199          0326 5                     RETURN;
;  200          0327 5
;  201          0328 4                END;
;  202          0329 4
;  203          0330 3           END;                                                   !End of PRESCAN operation
;  204          0331 3
;  205          0332 3           CASE .ATABLE [.KHAR] FROM 1 TO ACTION_COUNT OF
;  206          0333 3                SET
;  207          0334 3
;  208          0335 3                [A_CONTROL] :
;  209          0336 4                     BEGIN
;  210          0337 4
;  211          0338 5                     IF (.KHAR EQL 0)                           !NULL?
;  212          0339 5                          OR (.KHAR EQL %O'177')                !DEL?
;  213          0340 4                     THEN
;  214          0341 4                     !Ignore NULL and DEL
;  215          0342 5                          (0)
;  216          0343 4                     ELSE
;  217          0344 4
;  218          0345 4                          IF .SCA_CC_OK
;  219        U 0346 4 %IF DSRPLUS %THEN
;  220        U 0347 4                          OR .SCA_PASS
;  221          0348 4 %FI
;  222          0349 4                          THEN
;  223          0350 4                          !Control characters are ok or this is a pass through sequence.
;  224          0351 4                               ENDCHR (.KHAR)
;  225          0352 4                          ELSE
;  226          0353 4                          !Control characters are not ok.
;  227          0354 5                               BEGIN
;  228          0355 5                               LOCAL
;  229          0356 5                                    X,
;  230          0357 5                                    Y;
;  231          0358 5
;  232          0359 5                               Y = CH$PTR (X);
;  233          0360 5                               CH$WCHAR (.KHAR + %C'@', .Y);
;  234          0361 5                               ERM (RNFIIF, .Y, 1);
;  235          0362 5                               ERM (RNFLOC, 0, 0);
;  236          0363 4                               END;
;  237          0364 4                     KCNS ();
;  238          0365 3                     END;
;  239          0366 3
;  240          0367 3                [A_DIGIT, A_OTHER] :
;  241          0368 4                     BEGIN
;  242          0369 4                     ENDCHR (.KHAR);
;  243          0370 4                     KCNS ();
;  244          0371 3                     END;
;  245          0372 3
;  246          0373 3                [A_PUNCT] :
;  247          0374 4                     BEGIN
;  248          0375 4                     !A punctuation mark, maybe.
;  249          0376 4                     ENDCHR (.KHAR);
;  250          0377 4                     SCA_WRD_LC_PNCT = .SCA_PERIOD AND .SCA_FILL;
;  251          0378 4                     KCNS ();
;  252      0379  3           END;
;  253      0380  3
;  254      0381  3       [A_SPACE] :
;  255      0382  4           BEGIN
;  256      0383  4           IF .SCA_FC                          !Was the previous character a space?
;  257      0384  4           THEN
;  258      0385  5               BEGIN
;  259      0386  5               !When filling, multiple spaces get replaced
;  260      0387  5               !by a single space.
;  261      0388  5               !In .NO FILL mode, all spaces are saved
;  262      0389  5               IF NOT .SCA_FILL
;  263      0390  5               THEN
;  264      0391  5                   OUTXSP ()
;  265      0392  5               ELSE
;  266      0393  5                   !Be sure user didn't say '& ', which
;  267      0394  5                   !is an error in .FILL mode when there
;  268      0395  5                   !is a string of spaces in a row
;  269      0396  5                   IF .SCA_WRD_AC_UND       !Underline this space?
;  270      0397  5                   THEN
;  271      0398  5                       !User did say '& ', which is a problem for him.
;  272      0399  6                       BEGIN
;  273      0400  6                       SCA_WRD_AC_UND = FALSE;     !Fix it up.
;  274      0401  6                       ERMS (RNFFNA, .FS_START (IRA),
;  275      0402  6                           CH$DIFF (.FS_NEXT (IRA), .FS_START (IRA)) - 1);
;  276      0403  5                       END;
;  277      0404  5               END
;  278      0405  4           ELSE                    !This space terminates a word.
;  279      0406  4               ENDWRD (TRUE, .SCA_JUSTIFY, FALSE);
;  280      0407  4
;  281      0408  4           KCNS ();                            !Get next character.
;  282      0409  4
;  283      0410  4           IF .SCA_RSKIPS
;  284      0411  4           THEN
;  285      0412  4               RSKIPS (IRA);
;  286      0413  4
;  287      0414  3           END;
;  288      0415  3
;  289      0416  3       [A_TAB] :
;  290      0417  4           BEGIN
;  291      0418  4           IF NOT XTAB ()
;  292      0419  4           THEN
;  293      0420  5               BEGIN                           !Couldn't expand tab, so handle like a space.
;  294      0421  5               IF .SCA_FC                      !Was the previous character a space?
;  295      0422  5               THEN
;  296      0423  5                   !When filling, multiple spaces get replaced a single
;  297      0424  5                   !space. .NO FILL mode, all spaces are saved
;  298      0425  6                   BEGIN
;  299      0426  6                   IF NOT .SCA_FILL
;  300      0427  6                   THEN
;  301      0428  6                       OUTXSP ();
;  302      0429  6                   END
;  303      0430  5               ELSE
;  304      0431  5                   ENDWRD (TRUE, .SCA_JUSTIFY, FALSE);     !This space terminates a word.
;  305      0432  4               END;
;  306      0433  4
;  307      0434  4           KCNS ();                            !Get next character
;  308      0435  4
;   309       0436  4                    IF .SCA_RSKIPS
;   310       0437  4                    THEN
;   311       0438  4                    !Skip multiple spaces.
;   312       0439  4                        RSKIPS (IRA);
;   313       0440  4
;   314       0441  4                    SCA_FC_CASE = TRUE;                !Set case rules
;   315       0442  3                    END;
;   316       0443  3
;   317       0444  3                [A_U_LETTER] :
;   318       0445  4                    BEGIN
;   319       0446  4                    IF .SCA_FC_CASE
;   320       0447  4                    THEN
;   321       0448  4                        KHAR = .KHAR + .SCA_WRD_FC_UT
;   322       0449  4                    ELSE
;   323       0450  4                        KHAR = .KHAR + .SCA_WRD_OC_UT;
;   324       0451  4
;   325       0452  4                    ENDCHR (.KHAR);
;   326       0453  4                    KCNS ();
;   327       0454  3                    END;
;   328       0455  3
;   329       0456  3                [A_L_LETTER] :
;   330       0457  4                    BEGIN
;   331       0458  4                    IF .SCA_FC_CASE
;   332       0459  4                    THEN
;   333       0460  4                        KHAR = .KHAR + .SCA_WRD_FC_LT
;   334       0461  4                    ELSE
;   335       0462  4                        KHAR = .KHAR + .SCA_WRD_OC_LT;
;   336       0463  4
;   337       0464  4                    ENDCHR (.KHAR);
;   338       0465  4                    KCNS ();
;   339       0466  3                    END;
;   340       0467  3
;   341       0468  3                [A_U_ALPHA] :
;   342       0469  4                    BEGIN
;   343       0470  4                    IF .SCA_FC_CASE
;   344       0471  4                    THEN
;   345       0472  4                        KHAR = .KHAR + .SCA_MNWRD_FC_UT
;   346       0473  4                    ELSE
;   347       0474  4                        KHAR = .KHAR + .SCA_MNWRD_OC_UT;
;   348       0475  4
;   349       0476  4                    ENDCHR (.KHAR);
;   350       0477  4                    KCNS ();
;   351       0478  3                    END;
;   352       0479  3
;   353       0480  3                [A_L_ALPHA] :
;   354       0481  4                    BEGIN
;   355       0482  4                    IF .SCA_FC_CASE
;   356       0483  4                    THEN
;   357       0484  4                        KHAR = .KHAR + .SCA_MNWRD_FC_LT
;   358       0485  4                    ELSE
;   359       0486  4                        KHAR = .KHAR + .SCA_MNWRD_OC_LT;
;   360       0487  4
;   361       0488  4                    ENDCHR (.KHAR);
;   362       0489  4                    KCNS ();
;   363       0490  3                    END;
;   364       0491  3
;   365       0492  3                [A_FLAG] :
```

```
;   366         0493  3                 DOFLG ();
;   367         0494  3
;   368         0495  3             [A_INT_ESC] :
;   369         0496  4                 BEGIN
;   370         0497  4                 PUTMSG (RNFSSR, 0, 0);
;   371         0498  4                 RETURN;
;   372         0499  3                 END;
;   373         0500  3             TES;
;   374         0501  3
;   375         0502  2         END;
;   376         0503  1     END;                                                !End of SCANT

                                                                                .TITLE  SCANT Scan and translate text into the MRA
                                                                                .IDENT  \V04-000\

                                                                                .EXTRN  RINTES, FLGT, IRA
                                                                                .EXTRN  MRA, SCA, TSF, RNFFNA
                                                                                .EXTRN  RNFIBO, RNFIIF, RNFLOC
                                                                                .EXTRN  RNFSSR, ATABLE, KHAR
                                                                                .EXTRN  DOFLG, ENDCHR, ENDWRD
                                                                                .EXTRN  ERM, ERMS, FCIMRA
                                                                                .EXTRN  PUTMSG, RSKIPS, XTAB

                                                                                .PSECT  $CODE$,NOWRT,2

                                                        0FFC 00000              .ENTRY  SCANT, Save R2,R3,R4,R5,R6,R7,R8,R9,R10,R11  ; 0265
                                    5B 00000000G   EF    9E 00002              MOVAB   ENDWRD, R11                                  ;
                                    5A 00000000V   EF    9E 00009              MOVAB   OUTXSP, R10                                  ;
                                    59 00000000G   EF    9E 00010              MOVAB   ERM, R9                                      ;
                                    58        00G  8F    9A 00017              MOVZBL  #RINTES, R8                                  ;
                                    57 00000000G   EF    9E 0001B              MOVAB   FLGT+12, R7                                  ;
                                    56 00000000G   EF    9E 00022              MOVAB   ENDCHR, R6                                   ;
                                    55 00000000G   EF    9E 00029              MOVAB   IRA+12, R5                                   ;
                                    54 00000000G   EF    9E 00030              MOVAB   KHAR, R4                                     ;
                                    53 00000000G   EF    9E 00037              MOVAB   SCA+208, R3                                  ;
                                    5E             04    C2 0003E              SUBL2   #4, SP                                       ;
                                                   65    D5 00041  1$:         TSTL    IRA+12                                       ; 0286
                                                   01    18 00043              BGEQ    2$                                           ;
                                                   04    00045                 RET                                                  ;
                                    21        DC   A3    E9 00046  2$:         BLBC    SCA+172, 5$                                  ; 0295
                                    17        C0   B3    E9 0004A              BLBC    @SCA+144, 4$                                 ; 0301
                                    06             67    E9 0004E              BLBC    FLGT+12, 3$                                  ; 0302
                               48   A7             64    D1 00051              CMPL    KHAR, FLGT+84                                ; 0305
                                                   14    13 00055              BEQL    5$                                           ;
                                    0A        C0   B3    E9 00057  3$:         BLBC    @SCA+144, 4$                                 ; 0313
                                    06        24   A7    E9 0005B              BLBC    FLGT+48, 4$                                  ; 0314
                               6C   A7             64    D1 0005F              CMPL    KHAR, FLGT+120                               ; 0317
                                                   06    13 00063              BEQL    5$                                           ;
                                    3B             64    D1 00065  4$:         CMPL    KHAR, #59                                    ; 0323
                                                   01    12 00068              BNEQ    5$                                           ;
                                                   04    0006A                 RET                                                  ;
                                    52             64    D0 0006B  5$:         MOVL    KHAR, R2                                     ; 0332
                        0B          01 00000000GEF42     8F 0006E              CASEB   ATABLE[R2], #1, #11                          ;
        0018            0169        00C2         0062       00077  6$:         .WORD   12$-6$,-                                     ;
        0173            0029        011C         010B       0007F                      18$-6$,-                                     ;
        013E            012D        0029         0050       00087                      37$-6$,-                                     ;
```

```
                                                                      7$-6$,-                   ;
                                                                      25$-6$,-                  ;
                                                                      27$-6$,-                  ;
                                                                      8$-6$,-                   ;
                                                                      39$-6$,-                  ;
                                                                      10$-6$,-                  ;
                                                                      8$-6$,-                   ;
                                                                      29$-6$,-                  ;
                                                                      31$-6$                    ;
                                          52  D5 0008F 7$:    TSTL    R2                        ; 0338
                                          43  13 00091        BEQL    11$                       ;
                     0000007F    8F       52  D1 00093        CMPL    R2, #127                  ; 0339
                                          3A  13 0009A        BEQL    11$                       ;
                                 05    9C B3  E9 0009C        BLBC    @SCA+108, 9$              ; 0345
                                          52  DD 000A0 8$:    PUSHL   R2                        ; 0351
                                        0121  31 000A2        BRW     34$                       ;
                                 50       6E  9E 000A5 9$:    MOVAB   X, Y                      ; 0359
              60                 52    40 8F  81 000A8        ADDB3   #64, R2, (Y)              ; 0360
                                          01  DD 000AD        PUSHL   #1                        ; 0361
                                          50  DD 000AF        PUSHL   Y                         ;
                                  00000000G 8F  DD 000B1      PUSHL   #RNFIIF                   ;
                                 69       03  FB 000B7        CALLS   #3, ERM                   ;
                                          7E  7C 000BA        CLRQ    -(SP)                     ; 0362
                                  00000000G 8F  DD 000BC      PUSHL   #RNFLOC                   ;
                                 69       03  FB 000C2        CALLS   #3, ERM                   ;
                                          0F  11 000C5        BRB     11$                       ; 0364
                                          52  DD 000C7 10$:   PUSHL   R2                        ; 0376
                                 66       01  FB 000C9        CALLS   #1, ENDCHR                ;
                                 50    98 B3  D2 000CC        MCOML   @SCA+104, R0              ; 0377
  78    A3           B0          B3       50  CB 000D0        BICL3   R0, @SCA+128, SCA+328     ;
                                        00F0  31 000D6 11$:   BRW     35$                       ; 0378
                                 2D    C4 A3  E9 000D9 12$:   BLBC    SCA+148, 14$              ; 0383
                                 05    98 B3  E8 000DD        BLBS    @SCA+104, 13$             ; 0389
                                 6A       00  FB 000E1        CALLS   #0, OUTXSP                ; 0391
                                          2E  11 000E4        BRB     15$                       ;
        29           F8          A3       01  E1 000E6 13$:   BBC     #1, SCA+200, 15$          ; 0396
                     F8          A3       02  8A 000EB        BICB2   #2, SCA+200               ; 0400
        50           F8          A5    F4 A5  C3 000EF        SUBL3   IRA, IRA+4, R0            ; 0402
                                       FF A0  9F 000F5        PUSHAB  -1(R0)                    ;
                                       F4 A5  DD 000F8        PUSHL   IRA                       ; 0401
                                  00000000G 8F  DD 000FB      PUSHL   #RNFFNA                   ;
              00000000G  EF               03  FB 00101        CALLS   #3, ERMS                  ;
                                          0A  11 00108        BRB     15$                       ; 0383
                                          7E  D4 0010A 14$:   CLRL    -(SP)                     ; 0406
                                       94 B3  DD 0010C        PUSHL   @SCA+100                  ;
                                          01  DD 0010F        PUSHL   #1                        ;
                                 6B       03  FB 00111        CALLS   #3, ENDWRD                ;
                                          65  D5 00114 15$:   TSTL    IRA+12                    ; 0408
                                          08  14 00116        BGTR    16$                       ;
                                 64       58  9A 00118        MOVZBL  R8, KHAR                  ;
                                 65       01  CE 0011B        MNEGL   #1, IRA+12                ;
                                          09  11 0011E        BRB     17$                       ;
                                 64    F8 B5  9A 00120 16$:   MOVZBL  @IRA+4, KHAR              ;
                                       F8 A5  D6 00124        INCL    IRA+4                     ;
                                          65  D7 00127        DECL    IRA+12                    ;
                                 53    FC A3  E9 00129 17$:   BLBC    SCA+204, 24$              ; 0410
                                       F4 A5  9F 0012D        PUSHAB  IRA                       ; 0412
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               00000000G  EF           01  FB 00130       CALLS    #1, RSKIPS                ;
                                       47  11 00137       BRB      24$                       ; 0332
               00000000G  EF           00  FB 00139 18$:  CALLS    #0, XTAB                  ; 0418
                          17           50  E8 00140       BLBS     R0, 20$                   ;
                          09     C4    A3  E9 00143       BLBC     SCA+148, 19$              ; 0421
                          0F     98    B3  E8 00147       BLBS     @SCA+104, 20$             ; 0426
                          6A           00  FB 0014B       CALLS    #0, OUTXSP                ; 0428
                                       0A  11 0014E       BRB      20$                       ; 0421
                                       7E  D4 00150 19$:  CLRL     -(SP)                     ; 0431
                                 94    B3  DD 00152       PUSHL    @SCA+100                  ;
                                       01  DD 00155       PUSHL    #1                        ;
                          6B           03  FB 00157       CALLS    #3, ENDWRD                ;
                                       65  D5 0015A 20$:  TSTL     IRA+12                    ; 0434
                                       08  14 0015C       BGTR     21$                       ;
                          64           58  9A 0015E       MOVZBL   R8, KHAR                  ;
                          65           01  CE 00161       MNEGL    #1, IRA+12                ;
                                       09  11 00164       BRB      22$                       ;
                          64     F8    B5  9A 00166 21$:  MOVZBL   @IRA+4, KHAR              ;
                                 F8    A5  D6 0016A       INCL     IRA+4                     ;
                                       65  D7 0016D       DECL     IRA+12                    ;
                          0A     FC    A3  E9 0016F 22$:  BLBC     SCA+204, 23$              ; 0436
                                 F4    A5  9F 00173       PUSHAB   IRA                       ; 0439
               00000000G  EF           01  FB 00176       CALLS    #1, RSKIPS                ;
                          63           01  D0 0017D 23$:  MOVL     #1, SCA+208               ; 0441
                                       65  11 00180 24$:  BRB      38$                       ; 0332
                          07           63  E9 00182 25$:  BLBC     SCA+208, 26$              ; 0446
                          64   FF40    C3  C0 00185       ADDL2    SCA+16, KHAR              ; 0448
                                       38  11 0018A       BRB      33$                       ;
                          64   FF48    C3  C0 0018C 26$:  ADDL2    SCA+24, KHAR              ; 0450
                                       31  11 00191       BRB      33$                       ; 0452
                          07           63  E9 00193 27$:  BLBC     SCA+208, 28$              ; 0458
                          64   FF44    C3  C0 00196       ADDL2    SCA+20, KHAR              ; 0460
                                       27  11 0019B       BRB      33$                       ;
                          64   FF4C    C3  C0 0019D 28$:  ADDL2    SCA+28, KHAR              ; 0462
                                       20  11 001A2       BRB      33$                       ; 0464
                          07           63  E9 001A4 29$:  BLBC     SCA+208, 30$              ; 0470
                          64   FF70    C3  C0 001A7       ADDL2    SCA+64, KHAR              ; 0472
                                       16  11 001AC       BRB      33$                       ;
                          64   FF78    C3  C0 001AE 30$:  ADDL2    SCA+72, KHAR              ; 0474
                                       0F  11 001B3       BRB      33$                       ; 0476
                          07           63  E9 001B5 31$:  BLBC     SCA+208, 32$              ; 0482
                          64   FF74    C3  C0 001B8       ADDL2    SCA+68, KHAR              ; 0484
                                       05  11 001BD       BRB      33$                       ;
                          64   FF7C    C3  C0 001BF 32$:  ADDL2    SCA+76, KHAR              ; 0486
                                       64  DD 001C4 33$:  PUSHL    KHAR                      ; 0488
                          66           01  FB 001C6 34$:  CALLS    #1, ENDCHR                ;
                                       65  D5 001C9 35$:  TSTL     IRA+12                    ; 0489
                                       08  14 001CB       BGTR     36$                       ;
                          64           58  9A 001CD       MOVZBL   R8, KHAR                  ;
                          65           01  CE 001D0       MNEGL    #1, IRA+12                ;
                                       12  11 001D3       BRB      38$                       ;
                          64     F8    B5  9A 001D5 36$:  MOVZBL   @IRA+4, KHAR              ;
                                 F8    A5  D6 001D9       INCL     IRA+4                     ;
                                       65  D7 001DC       DECL     IRA+12                    ;
                                       07  11 001DE       BRB      38$                       ; 0332
               00000000G  EF           00  FB 001E0 37$:  CALLS    #0, DOFLG                 ; 0493
                               FE57    31     001E7 38$:  BRW      1$                        ;
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                                 7E   7C 001EA 39$:   CLRQ    -(SP)                                     ; 0497
                       00000000G  8F   DD 001EC        PUSHL   #RNFSSR                                   ;
             00000000G  EF         03   FB 001F2        CALLS   #3, PUTMSG                                ;
                                        04 001F9        RET                                               ; 0503

; Routine Size:  506 bytes,    Routine Base:  $CODE$ + 0000
;  378     0504   1 ROUTINE OUTXSP : NOVALUE =
;  379     0505   1
;  380     0506   1 !++
;  381     0507   1 ! FUNCTIONAL DESCRIPTION:
;  382     0508   1 !
;  383     0509   1 ! This routine is called in .NO FILL mode, when extra spaces are detected
;  384     0510   1 ! between words.  It appends them to any other such spaces until either a new
;  385     0511   1 ! word is started, or the current output line is filled.  In the latter case,
;  386     0512   1 ! such extra spaces get dropped.
;  387     0513   1 !
;  388     0514   1 ! FORMAL PARAMETERS:     None
;  389     0515   1 !
;  390     0516   1 ! IMPLICIT INPUTS:       None
;  391     0517   1 !
;  392     0518   1 ! IMPLICIT OUTPUTS:      None
;  393     0519   1 !
;  394     0520   1 ! ROUTINE VALUE:
;  395     0521   1 ! COMPLETION CODES:      None
;  396     0522   1 !
;  397     0523   1 ! SIDE EFFECTS: None
;  398     0524   1 !
;  399     0525   1 !--
;  400     0526   1
;  401     0527   2     BEGIN
;  402     0528   2
;  403     0529   2     IF CH$DIFF(.FS_NEXT(MRA),.FS_START(MRA)) EQL .TSF_INT_VL!
;  404     0530   2     THEN
;  405     0531   2         FCIMRA ();                  !Will be first character going into MRA.
;  406     0532   2
;  407     0533   2     !Make sure that an extremely long string of spaces doesn't cause MRA
;  408     0534   2     !to overflow.  Stop 10 short so that underlining, bolding, etc can be
;  409     0535   2     !forced out.
;  410     0536   2     IF (.FS_MAXSIZE (MRA) - .FS_LENGTH (MRA)) LSS 10
;  411     0537   2     THEN
;  412     0538   3         BEGIN                                       !Character might not fit in storage
;  413     0539   3
;  414     0540   3         EXTERNAL
;  415     0541   3             IRA : FIXED_STRING;                     !needed only for error handling.
;  416     0542   3
;  417     0543   3         ERM (RNFIBO, .FS_NEXT (IRA), .FS_LENGTH (IRA));
;  418     0544   3         ERM (RNFLOC, 0, 0);
;  419     0545   3         ENDWRD (FALSE, FALSE, FALSE);
;  420     0546   3         WHILE .KHAR NEQ RINTES DO                   !Skip to end of input line.
;  421     0547   3             KCNS ();
;  422     0548   3         RETURN
;  423     0549   2         END;
;  424     0550   2
;  425     0551   2     IF .SCA_WRD_AC_UND
;  426     0552   2     THEN
;  427     0553   3         BEGIN                                       !Forced underlining for this space
;  428     0554   3         FS_WCHAR (MRA, RINTES);
;  429     0555   3         FS_WCHAR (MRA, %C'U');
;  430     0556   3         FS_WCHAR (MRA, %C' ');
;  431     0557   3         SCA_WRD_LST_UND = .SCA_WRD_LST_UND + 1;
;  432     0558   3         SCA_WRD_AC_UND = FALSE;
;  433     0559   2         END;
;  434     0560   2
```

```
:  435      0561  2      FS_WCHAR (MRA, %C' ');                         !Put out the actual space.
:  436      0562  2      SCA_WRD_LST_SP = .SCA_WRD_LST_SP + 1;
:  437      0563  2      !Update pointer to where next word will start.
:  438      0564  2      SCA_WRD_PNTR = .FS_NEXT (MRA);
:  439      0565  1      END;                                           !End of OUTXSP



                                  00FC 00000 OUTXSP: .WORD    Save R2,R3,R4,R5,R6,R7            ; 0504
                 57       00G   8F  9A 00002         MOVZBL   #RINTES, R7                       :
                 56 00000000G   EF  9E 00006         MOVAB    ERM, R6                           :
                 55 00000000G   EF  9E 0000D         MOVAB    KHAR, R5                          :
                 54 00000000G   EF  9E 00014         MOVAB    MRA, R4                           :
                 53 00000000G   EF  9E 0001B         MOVAB    SCA+200, R3                       :
                 52 00000000G   EF  9E 00022         MOVAB    IRA+12, R2                        :
                 50             64  D0 00029         MOVL     MRA, R0                           ; 0529
50          04   A0             60  C3 0002C         SUBL3    (R0), 4(R0), R0                   :
                 51 00000000G   EF  D0 00031         MOVL     TSF, R1                           :
            18   A1             50  D1 00038         CMPL     R0, 24(R1)                        :
                                07  12 0003C         BNEQ     1$                                :
     00000000G   EF             00  FB 0003E         CALLS    #0, FCIMRA                        ; 0531
                 50             64  D0 00045 1$:     MOVL     MRA, R0                           ; 0536
51          0C   A0             0A  C1 00048         ADDL3    #10, 12(R0), R1                   :
                 51        08   A0  D1 0004D         CMPL     8(R0), R1                         :
                                40  18 00051         BGEQ     4$                                :
                                62  DD 00053         PUSHL    IRA+12                            ; 0543
                           F8   A2  DD 00055         PUSHL    IRA+4                             :
                    00000000G   8F  DD 00058         PUSHL    #RNFIBO                           :
                 66             03  FB 0005E         CALLS    #3, ERM                           :
                                7E  7C 00061         CLRQ     -(SP)                             ; 0544
                    00000000G   8F  DD 00063         PUSHL    #RNFLOC                           :
                 66             03  FB 00069         CALLS    #3, ERM                           :
                                7E  7C 0006C         CLRQ     -(SP)                             ; 0545
                                7E  D4 0006E         CLRL     -(SP)                             :
     00000000G   EF             03  FB 00070         CALLS    #3, ENDWRD                        :
                 57             65  D1 00077 2$:     CMPL     KHAR, R7                          ; 0546
                                5B  13 0007A         BEQL     6$                                :
                                62  D5 0007C         TSTL     IRA+12                            ; 0547
                                08  14 0007E         BGTR     3$                                :
                 65             57  9A 00080         MOVZBL   R7, KHAR                          :
                 62             01  CE 00083         MNEGL    #1, IRA+12                        :
                                EF  11 00086         BRB      2$                                :
                 65        F8   B2  9A 00088 3$:     MOVZBL   @IRA+4, KHAR                      :
                           F8   A2  D6 0008C         INCL     IRA+4                             :
                                62  D7 0008F         DECL     IRA+12                            :
                                E4  11 00091         BRB      2$                                :
2A               63             01  E1 00093 4$:     BBC      #1, SCA+200, 5$                   ; 0551
                 50             64  D0 00097         MOVL     MRA, R0                           ; 0554
                 51        04   A0  9E 0009A         MOVAB    4(R0), R1                         :
            00   B1             57  90 0009E         MOVB     R7, @0(R1)                        :
                                61  D6 000A2         INCL     (R1)                              :
                           0C   A0  D6 000A4         INCL     12(R0)                            :
            00   B1        55   8F  90 000A7         MOVB     #85, @0(R1)                       ; 0555
                                61  D6 000AC         INCL     (R1)                              :
                           0C   A0  D6 000AE         INCL     12(R0)                            :
                                  00   B1            20  90 000B1         MOVB   #32, @0(R1)                                  ; 0556
                                                     61  D6 000B5         INCL   (R1)                                         ;
                                                0C   A0  D6 000B7         INCL   12(R0)                                       ;
                                              008C   C3  D6 000BA         INCL   SCA+340                                      ; 0557
                                         63          02  8A 000BE         BICB2  #2, SCA+200                                  ; 0558
                                         50          64  D0 000C1 5$:     MOVL   MRA, R0                                      ; 0561
                                  04   B0            20  90 000C4         MOVB   #32, @4(R0)                                  ;
                                                04   A0  D6 000C8         INCL   4(R0)                                        ;
                                                0C   A0  D6 000CB         INCL   12(R0)                                       ;
                                              0084   C3  D6 000CE         INCL   SCA+332                                      ; 0562
                                  30   A3       04   A0  D0 000D2         MOVL   4(R0), SCA+248                               ; 0564
                                                         04 000D7 6$:     RET                                                 ; 0565

; Routine Size:  216 bytes,    Routine Base:  $CODE$ + 01FA


;  440          0566  1
;  441          0567  1 END                                             !End of module
;  442          0568  0 ELUDOM




;                                      PSECT SUMMARY
;
;       Name                         Bytes                        Attributes
;
;  $CODE$                                 722  NOVEC,NOWRT,  RD ,  EXE,NOSHR,  LCL,  REL,  CON,NOPIC,ALIGN(2)



;                                Library Statistics
;
;
;                                            -------- Symbols --------       Pages       Processing
;       File                                 Total    Loaded   Percent       Mapped      Time
;
;  _$255$DUA28:[SYSLIB]XPORT.L32;1             590         0         0        252         00:00.2
;  _$255$DUA28:[RUNOFF.SRC]DSRLIB.L32;1       1248        63         5         86         00:00.3



;                                        COMMAND QUALIFIERS

;       BLISS/CHECK=(FIELD,INITIAL,OPTIMIZE)/LIS=LIS$:SCANT/OBJ=OBJ$:SCANT MSRC$:SCANT/UPDATE=(ENH$:SCANT)

; Size:           722 code + 0 data bytes
; Run Time:          00:16.6
; Elapsed Time:      00:33.3
; Lines/CPU Min:       2051
; Lexemes/CPU-Min: 20785
; Memory Used:  168 pages
; Compilation Complete
```

0349 AH-BT13A-SE
VAX/VMS V4.0

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